DEVELOPING A SPANISH LANGUAGE PROGRAM FOR THE GARLAND FIRE DEPARTMENT

STRATEGIC MANAGEMENT OF CHANGE

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ABSTRACT

This research project examined the issue of the Spanish language and the Garland Fire Department. The problem was that the department often faced a language barrier when dealing with the Hispanic community at emergency incidents. The purpose of this research was to develop training and assistance to allow communication with Spanish-speaking residents at an emergency. Action research methodology was utilized to answer the following research questions:

1. Is there a need to increase the number of Garland firefighters who can speak Spanish or to develop interpretation assistance for those firefighters?
2. In which areas of fire department responsibility should Spanish language training or interpretation assistance be developed?
3. What types of Spanish language training or interpretation assistance should the Garland Fire Department adopt?

The principal procedure was to review literary sources for answers to the questions. Each source was analyzed for its relevance to the issues. The literature consisted of literary sources with a fire service orientation and books by authors in and outside of the fire service. The World Wide Web was accessed for census data concerning the Hispanic population in the United States and for articles that dealt with language issues.

The results established the need for more firefighters to speak Spanish or have interpretation assistance close at hand. Fire suppression and emergency medicine were areas where Spanish comprehension capability was most needed. The results concluded

that the department organize Spanish language classes, contract with AT&T's Language Line Service, and develop a set of Spanish flash cards for interpretation use.

Recommendations included Spanish language classes, recruiting community volunteers as training assistants, financial bonuses for firefighters maintaining a proficiency in Spanish, use of AT&T's Language Line, and developing the Spanish flash cards. The project proposed future research into the scope of a Spanish language program and the growth of other foreign languages in Garland besides Spanish.

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INTRODUCTION

Language is the essence of human interaction. People relate to each other through mutually understandable ways of speaking, writing, and behaving. A partner with language is culture. Culture is learned. It is shared by groups of people, and it concerns ideas, values, attitudes, and behaviors. Cultural groups share a viewpoint on the ways in which the world works and ought to work. (Naylor, 1997). A problem existed when demographic and cultural changes created new demands on the fire service to communicate with individuals who have little ability to communicate in the English language (Reed, 1998). Fire is not a peculiar problem to any one individual; or linguistic population, but it is a threat to each individual (Majanovich, 1993).

The problem was that the Garland Fire Department often faced a language barrier when dealing with members of the Hispanic population at emergency incidents in Garland. The purpose of this research was to develop a program of language training and interpretation assistance to enable quick, effective communication between English-speaking firefighters and Spanish-speaking residents needing assistance. Action research methodology was employed to answer the following questions:

1. Is there a need to increase the number of Garland firefighters who can speak Spanish or to develop interpretation assistance for those firefighters?
2. In which areas of fire department responsibility should Spanish language training or interpretation assistance be developed?
3. What types of Spanish language training and or interpretation assistance should the Garland Fire Department adopt?

BACKGROUND AND SIGNIFICANCE

The United States is no longer the melting pot through which people and cultures fuse and lose their identifies. It is a mosaic, a tapestry, or a salad bowl in which individuals and groups retain their identities, but work with others to yield something greater than the pieces could yield on their own. (Plunkett, 1998). Due in part to the proximity of Mexico and the immigration from Latin America, Spanish is America's most popular second language (Erichsen, 2000). The nation's Hispanic population boomed in the 1990s. Between July 1, 1990 and July 1, 1999, the Hispanic population grew 38 percent to 31.3 million. In Texas, the Hispanic population grew by 39.3 percent during the same period, toping 6 million (Armas, 2000).

Geography plays a strategic role in the Hispanic population growth in local Texas communities as Texas and Mexico share a common border that spans almost 900 miles ("Rio Grande", 2000). History has also played a role. Texas and Mexico were originally settled by Spain in the 17th Century and became Spanish colonies. Texas became a part of Mexico when Mexico won it independence from Spain in 1821. There had been over 200 years of Hispanic political influence when Texas won its independence from Mexico in 1836. (Office of the Governor of Texas, 2000). The recent history of the region must also be examined. Mexico experienced an economic boom in the 1970's. Petroleum exports and substantial investment in both the private and public sectors of the Mexican economy spurred it. Much of the financing came from private banks and international lending institutions, and substantial debt was built up. When petroleum prices began plummeting the early 1980's it precipitated an economic crisis unparalleled in Mexico's history. Inflation rose to triple digits in the late 1980s. In addition, the population had

increased 500% since 1915. The population growth and economic downturn severely taxed the Mexican government's ability to provide basic social services and economic opportunities to the people. (“Mexico”, 1999). This turn of events also affected immigration the United States. It was estimated that somewhere between 4 million and eight million Mexicans relocated illegally to the United States between 1970 and 1985. The illegal immigration acted as a safety valve for Mexico in that it eased the social and economic problems of the country. Illegal immigrants also remanded significant parts of their income earned in America back to their families in Mexico. (“Mexico”, 1999). An U.S. government strategy aimed at controlling Mexican migration produced unintended consequences, pushing immigrants into nearly every corner of the country. Known as the Immigration Reform and Control Act of 1986, or IRCA, the law granted amnesty to 3.1 million immigrants, 85 percent of who were Mexican workers already in the country. It also promised to block the border to new waves of immigrants. That never happened. Prior to the new law, Mexican migrants didn’t settle in the United States with the regularity they do now. Between 1965 and 1986, according to studies by the University of Pennsylvania, about 27.9 million undocumented Mexicans entered the United States and 23.3 million returned to Mexico, a net gain of just 4.6 million people, suggesting that most of the laborers followed seasonal crops. In the 13 years since the passage of the IRCA, the number of Mexicans legally and illegally moving into the United States jumped to an estimated 340,000 a year from about 100,000 (Corchado and Solis, 2000). This Diaspora is without precedent for Mexico, which has lost nearly 10 million people to the United States. The Mexican migration is distinct for a poignant reason, the exodus

appears to have no end in sight. Mexico has not sustained a healthy economy for almost a quarter of a century (Corchado and Solis, 2000).

The ubiquitous nature of the Hispanic population is demonstrated by the fact that Spanish speakers are the only linguistic minority in the U.S. to have not one but two nationwide television networks. Univison and Telemundo are available to over 90% of the Spanish-speaking households (Fox, 1996). International diplomacy has also played a role in Hispanic cultural growth in Texas. The North American Free Trade Agreement (NAFTA) between the U.S., Canada, and Mexico went into effect January 1, 1994. NAFTA's main provisions called for the gradual reduction of tariffs, customs, duties, and other trade barriers between the three signatory nations. The final goal is duty free access for a wide range of goods and services between the signatories (NAFTA, 2000). The final effects of the treaty are yet to be seen, but one can easily surmise that there would be an increase in economic activity between Mexico and Border State Texas. Increased contacts could lead to a greater exchange of visitors.

Language can become a political issue. It can become a source of controversy as some have sought to establish English as the official language of the U.S. The potential for political minefields was exhibited by the recent actions of the city government of the city of El Cenizo, Texas. El Cenizo is a town of 1,500 residents on the Texas-Mexico border. The mayor and city council passed an ordinance that required city business be conducted in Spanish. It also permitted the firing of any city employee who assisted the Border Patrol in finding undocumented immigrants. While the legality of the ordinance is in question, the city’s actions provided a hint as to the volatility of the Spanish language issue in Texas and the rest of the nation (Schiller, 1999).

The past history of the Garland Fire Department when responding to calls that involved Spanish-speaking residents was dotted with haphazard inefficiencies. Only 7 of the 240 firefighters in the department were fluent in Spanish (Captain Jeff Tokar, personal communication, August 15, 2000). If one of these firefighters were not present on scene then the possibility of an English-speaking family member was sought. If this was not possible, a Spanish-speaking police officer was requested to respond to the scene. If this was not possible, then simple hand gestures were used. This series of steps produced emergency situations ripe for catastrophe. There was no strategic vision for solving the communications barrier when serving Spanish-speaking residents. The inability to communicate at any type of emergency was a problem that needed to be addressed.. The nature of the fire service in the new millennium demanded that a department utilize progressive, proactive thinking that anticipated major changes in its service commitments. A language barrier was one of them.

To accent the dimensions of the problems it was necessary to add one poignant account. The story is of course anecdotal. It cannot serve as any scientific discourse for this project. But a story such as this is one too many. On March 3, 1999, at around 3:30 p.m., the Garland Fire Department responded to a 911 call of a house fire in the 400 block of West Celeste. The adult residents of the house spoke only Spanish, the arriving firefighters only English. In the chaos that is a fire ground, there was ineffective communication between the two groups. A three-year old Hispanic child perished in the fire before rescuers could reach him. An autopsy later showed that he was already dead by the time fire department units arrived on scene (Captain Tommy Weston, personal communication, August 17, 2000). Yet the findings did not erase the frustration

firefighters felt that day. As the Hispanic population in the area increased, the potential for similar episodes could only increase

This research project was related to two units of the Strategic Management of Change course of the National Fire Academy (NFA). Module I, "Introduction to Change Management" described the need for fire department managers to identify current issues and trends as they applied to the fire service. The module also identified the need for change and how leadership needed to take action when appropriate. Garland's population undergoing a demographic shift certainly qualified as a trend affecting the fire department. It also required a change on the part of the Garland Fire Department. Implementing a program to increase Spanish comprehension among firefighters related to Module III, "Managing Change Using the Change Management Model." The module described the skills and knowledge required to manage organizational change, identified when change was inevitable, necessary, or advantageous, and developed plans to respond to the change requirement A fire officer of the 21st Century must recognize the change in American society from melting pot to mosaic. Having recognized this sociological change in the service population, the fire manager must be proactive and identifies ways that a department can adapt to meet the service needs produced by the new American diversity.

LITERATURE REVIEW

Need for Spanish Fluency or Interpretation Assistance

Communication in an emergency situation was often difficult when patients and service providers spoke the same language. Fright, bewilderment, anxiety, and tension affected the accuracy and timelines of patent responses to provide questions or requests.

Problems were multiplied when language and cultural behaviors complicated these matters. Given the increased potential for miscommunication or total breakdown of communication when the Spanish speaking person encounters the English-speaking worker, it was doubly important for the provider to proceed cautiously in making assumptions about the patient's level of understanding and the quality of the communication relationship. (Lewis, Lefler, Hidalfo, and Kastelic, 1978).

One must try to determine the potential of the communication problem. One answer lies in population statistics. As already mentioned in this paper, the Hispanic population was 31 million in July 1999, which accounted for 12 percent of the U.S. population (Armas, 2000). Additional projections by the Census Bureau show the percentage of Hispanics in the national population to rise to 15% in 2010, 18% in 2025, and 25% in 2050 (U.S.Census Bureau, 1996). Projections provided by the Texas State Data Center at Texas A&M University show that if the current pace of growth continues, Hispanics in Texas will outnumber whites in the year 2025. Overall, the total number of Hispanics living in North Texas had doubled to more that 920,000, up from 525,000 in 1990. Immigrants of Mexican descent account for about 90% of all Hispanics in Texas (Corchado and Trejo, 2000). The statistical data from the city of Garland was not as compelling, although it was also some of the oldest data utilized in the research. In 1990, the Hispanics composed 12% of Garland's population (Census Bureau, 1996). A final interesting notes was the birthrate. In 1997, the Hispanic birthrate in Texas was 25.8 per 1,000 population, as compared to 13 for Caucasians and 17.8 for African-/American Americans. (Wilkerson and Archer, 1997).

The population changes indicated a dramatic shift in the demographics of the United States, Texas, and Garland in the 21st Century. The average American work place was changing in color, nationality, and cultural points of view (Reed, 1998). However, was not enough to cite populations statistics to answer the first research question. That the Hispanic population was increasing in North Texas as well as the rest of Texas and the U.S. was a given. What remained to be studied was the degree of English fluency among the Hispanic population. The Census Bureau provided the best data. In the 1990 census, of all persons five years of age and older, there were 17 million people who regularly spoke Spanish. Of these, 48% spoke English less that "very well" (Census Bureau, 1996).

Geoffrey Fox was one of many authors who wrote of the importance that the Spanish language has today in the U.S. and how it related to the future. As with the Census Bureau he too studied the degree of English proficiency among Hispanics. He felt the truth was hard to estimate because the numbers kept changing. People who spoke only Spanish were learning English and some gave up using Spanish altogether. In the mean time, there were always monolingual Spanish speakers immigrating to the America. Thus any data must account for the monolingual Spanish immigrants plus the number of born in the country for whom Spanish was the mother tongue. Then the data had to be adjusted yet again for those who learned English so thoroughly that they ceased speaking Spanish (Fox, 1996). Fox the analyzed earlier Census Bureau research from 1976, which projected 17 million Hispanics in the U.S. in 1990, of whom three million would speak only Spanish. While the study was correct in the overall number o f Hispanics living in the U.S, the 1990 census found seven million Spanish speakers who had little skill with

English (Fox, 1996). Fox theorized that the number of Spanish speakers was growing rapidly due to immigration and the greater availability of communication in Spanish. He also felt that the increased use of Spanish was an assertive, proactive strategy to preserve traditional ethnic identity. Finally, he felt that many chose to maintain Spanish fluency as a practical gambit to gain a competitive advantage over monolingual competitors in the immense Spanish –speaking world and the world at large (Fox, 1996)

There had been some earlier research in the problems of communications between English-speaking firefighters and Spanish-speaking residents. In May of 1977 Gustavo and Raul Matamoros of the Worcester Fire Department undertook a research project in conjunction with Worcester Polytechnic Institute. They had observed and heard concerns from the community and some firefighters that a language gap existed between the people and city employees, especially the fire department (G. Matamoros and R. Matamoros, 1977). The Hispanic population of Worcester had grown. Based on the discussions, the researchers felt that during emergency incidents, essential communication was very difficult. Under stress the Hispanic families found it harder to speak English, as for many of them, it was still a foreign language. With these observations, the researchers undertook a project of Spanish classes for English speaking firefighters (G. Matamoros and R. Matamoros, 1977). This study will be visited again later in this research. For now, the salient point was that as early as 1977 a department recognized a language problem due to changing demographics and sought to implement and manage change to respond to a new reality.

There was a definite lack of bilingual capability in the Garland Fire Department. As already mentioned, only 7 of 240 firefighters spoke Spanish (Captain Jeff Tokar, personal

communication, August 15, 2000). That came to only three percent of the firefighters in a department located in an area whose Hispanic population was growing. A final thought came from Gerald Erichsen of About.Com. His company was one of many that offered Spanish language classes for emergency workers. His arguments for bilingual training went beyond that of practical benefit for an emergency worker. He touched on the fact that to learn a foreign language, a person gained a sense of how other people felt and thought in ways that might differ from a dominant culture (Erichsen, 2000). Such insights could be of invaluable assistance because much of what an emergency worker accomplished at an emergency scene involved interactions with people on personal level.

Focus of Spanish Language Assistance

The research initially focused on the two main areas of fire department operations: fire suppression and emergency medicine. It was in the field of emergency medicine that there appeared to be a particular concept that affected the interaction between a paramedic and his patient. The concept was termed “confianza”. Confianza roughly translated into English referred to confidence and trust in the good intentions of another individual towards oneself. Courtesy and respect for the patient promoted the establishment of confianza (Lewis et al., 1978). This harkened back to the proposition by Erichsen about how learning a new language gave a person new insights into the thoughts of a different culture (2000). Other authors concluded there was a practical side to bilingualism in emergency medicine. Non-English speaking patients could require tine-consuming care from a health care provider who was not bilingual. There would always be the potential misinterpretation of complainants and needs (Nasr et al., 1993). One could not escape the standard that an essential skill of medicine was communication.

Overcoming a foreign language barrier had profound clinical significance, not only in assessing diagnosis but also because language influenced symptoms revealed by patients. The communication barrier often lead to what was called the “nodding syndrome”, when patients nodded in agreement to all answers out of fear or embarrassment of questions not understood. (Nasr et al., 1993).

The traditional function of a fire department was fire suppression. Hispanics came to and were born in a country that had one of the highest fire death rates in the industrialized world. Between 1994 and 1998, the United States Fire Administration (USFA) reported that an average of 4,400 Americans lost their lives in fires, and another 25,000 were injured annually as a result of fire. In 1998 the U.S. fire death rate was 14.9 deaths per million population (USFA, 1999c). Residential fires represented 22 percent of all fires and had 80% of the fire fatalities (USFA, 1999b). Clearly, there was a great danger at home, not only for Hispanics, but also for all Americans. When a fire department responded to a structure fire, one of its most important priorities was to conduct a primary search of the building to rescue tapped occupants. (Coleman, 1997). Depending on the size of the fire when firefighter arrived, information gathered from occupants or neighbors could be critical. Coleman stressed the time factor involved in starting the search. The human body can only go without oxygen for two to six minutes. Depending on the amount of smoke the fire was producing and the response time of the fire department to the scene, there might not be much time to pull viable victims from the structure. Occupants could give information that could help determine the last known location of a missing person. Coleman pointed out that neighbors revealed life style patterns that could pinpoint a potential location such as an occupied bedroom (1997).

This last point again emphasized how important communication was between emergency responders and the service population. Coleman's views on search and rescue at a fire scene were typical of the fire service. There were no resources that disagreed with his view on fireground rescue. The. greatest danger that a Hispanic family faced from fire was not at work where there might be bilingual co-workers or supervisors, but in their neighborhood where little or no English might be spoken.

It was at this point in the research that the emergency incident statistics of the Garland Fire Department of the last three years were reviewed. In the three-year period encompassing 19997-1999, the department averaged 12,000 emergency medical incidents while the structure fire incidents averaged 473 per year (Stewart Smith, personal communication, August 21, 2000). The numbers, especially emergency medical incidents, provided evidence that there was substantial interaction with the populace to consider bilingual training and/or assistance for paramedics.

The research also considered fire department responsibilities in fire prevention education. In 1973, the National Commission on Fire Prevention and Control issued a landmark report titled "America Burning". Among its finding was a forceful argument for more emphasis on fire prevention education. Education could prevent may fires that were caused by a lack of concern and ignorance of fire hazards It stated the belief that fire prevention should be equal to suppression in fire department priorities (USFA, 1999a). A federal panel reviewed this report in 1998 and 1999. Among their additional recommendations was to spend an additional four million per year for community hazard assessment and the hiring of additional fire safety educators. Another recommendation given much play was to increase awareness as to how diversity and multi-culturism

affected the fire problem (USFA, 1998). It was quite evident that the federal viewpoint argued for stronger emphasis on prevention. Garland has not followed suit in response to the recommendations. In fiscal 2000, the department spent 10 million dollars in suppression and EMS as compared to 660,000 dollars on prevention. (Garland, Texas, 2000). A review of the web sites and catalogues for the National Fire Protection Association (NFPA) (http://www.nfpa.org), International Fire Service Training Association (IFSTA) (http://www.ifsta.org), and United States Fire Administration (http://www.usafa.fema.gov), all devoted major areas to fire prevention materials. The NFPA had offered the landmark program "Learn not to Burn" to educate children (2000). IFSTA offered videos on fire in the workplace and at home (2000).

There was one additional factor considered in the research concerning bilingualism in fire prevention education. In 1973 the state legislature enacted the Bilingual Education and Training Act, which mandated bilingual instruction for all Texas elementary public schools that had twenty or more children with limited English-speaking skills (Education, 1999). This placed teachers in Garland's elementary schools that were fluent in Spanish and English. By simple evolution bilingual teachers became unofficial assistants to the Garland Fire Department when a fire safety education class was given at a local school. One could debate the appropriateness of an English-speaking firefighter using a civilian interpreter to get his safety message across, but the scenario continued to be widely used in Garland and never revealed any serious deficiencies.

Spanish Language Assistance

A traditional, ad hoc approach was to use relatives and acquaintances as interpreters, especially in the field of medicine. Nasr et al. (1993) documented several problems in this approach:

1. Lack of medical skill and knowledge by the translator.
2. Paraphrasing.
3. Incomplete or inaccurate translation.
4. Embarrassment in asking personal questions.
5. Patient-interpreter interactions.
6. Loss of verbal and non-verbal clues.
7. Difference in education levels and beliefs of interpreter and patient.

In 1982, Truckee Fire Protection District, which covered 500 miles in northern Nevada, developed its own simple device to manage a Spanish fluency problem. The Hispanic population had grown and there was concern in regard to a population with a limited use of the English language being able to report an emergency. In response to a request from Truckee's Fire Prevention Bureau, Nevada Bell inserted a Spanish instruction paragraph on the emergency information page at the beginning of the phone book. The instructions told the Spanish-speaking caller to stay on the line if the operator did not speak Spanish because a three-way connection with a volunteer Spanish translator would be set up to handle translation (Majonovich, 1983).

The topic that generated the most research material was Spanish language classes for emergency workers. Redwood City, California required all new police officers to undergo 36 hours of Spanish language instruction. This course emphasized oral

communication in Latin American Spanish and included slang, obscenities, and other useful phrases. Its annual cost to the city was $9,250 ("Spanish Language Instruction", 1998). Walter Reed of the Coral Gables Fire Department advocated on-duty Spanish training of firefighters to manage a communication problem with the Hispanic population in that city. He explored the use of instructors, computerized training programs, and audiotape programs for language instruction. Instructors could be outside contractors or from private educational institutions. He also suggested the possible use of community volunteers (1998).

Research uncovered numerous private corporations that offered Spanish language instruction. Typical of this type of company was Command Spanish Incorporated. This company offered occupational Spanish language materials and workshops for the professions. In addition to language programs, it offered a full range of cross-cultural training seminars and materials designed to eliminate cultural misunderstandings between Hispanics and non-Hispanics. It utilized a particular type of management team composed of Spanish professors, specialists in language acquisition, and experts in Spanish culture. ("About Command Spanish", 2000)

Its approach contained one valuable concept. It recognized that nurses, police officers paramedics, and firefighters needed a limited, focused amount of Spanish to do their job properly. Traditional Spanish courses might teach fruits and vegetables, weather expressions, and other items not applicable to public safety work. Instead Command Spanish focused on a program for adults who needed job specific Spanish. The company referred to it as "occupational Spanish" as compared to the "academic Spanish" taught at a local junior college. As of June 2000, a two-day intensive seminar was offered at $295

per person in various parts of the country ("Certification Seminars", 2000). Among the other products offered by Command Spanish was a useful concept that appealed to a sense of economy and speed. The company offered what it called a "Power Spanish Card" which was a laminated card which listed all of the necessary Spanish phrases listed in the training manuals ("Instruction Materials", 2000). This idea generated a similar idea among Garland's Chief Officers that came to be known as Spanish flash cards. While Spanish language classes might be long term solution, the department needed a solution with more immediate results. A small number of laminated card with pertinent English-Spanish phrases for house fire situations could be used as an interim solution to any communications problems at a fire emergency scene. The cards allowed limited communication between an English-speaking fire officer and a Spanish-speaking neighbor as to determination of the existence and location of any person within a burning structure. This concept will be elaborated on in the Results and Discussion part of this project.

An early effort using community volunteers to train firefighters in Spanish was undertaken in the Worcester Fire Department in 1977. As mentioned earlier in the project, the Matamoros brothers of the Worcester Fire Department had perceived a language barrier between Spanish-speaking residents and English-speaking firefighters. They organized and reported on a language-training project to address this deficiency. They used local community volunteers as language instructors with classes that met once or twice a week at night for two hours. Instruction included class recitation, vocabulary lists and audiotapes, individual responses in Spanish to questions posed by instructors, and discussions about the Spanish language and the customs of the Hispanic culture.

Vocabulary lists were chosen for their simplicity and directness. The terms included were felt to embody the essentials of conversation in a fire emergency situation. (G.Matamoros and R. Matamoros, 1977). The results were mixed. The teaching project was on a small scale, involving only one fire station. The effort on the part of firefighters was purely voluntary and hence knowledge of the project was not widespread thorough out the department. Although equivalent attention was given to all four classes of firefighters, only one group showed increased interest in the program while the other three soon lost interest. (G. Matamoros and R. Matamoros, 1977).

Technology offered an interesting development in the field of language interpretation, one that offered promise for the Garland Fire Department. This concept garnered wide attention in the Summer Olympic Games of 1996 in Atlanta. As thousands of athletes and millions of visitors from around the world came to Atlanta for the games, local authorities adopted a new service from the American Telephone and Telegraph Company (AT&T). The service was called AT&T Language Line (AT&T, 1996). Language Line broke down communication barriers by offering Olympic Games visitors over-the-phone interpretation from English to as many as 140 languages, 24 hours a day, seven days a week. A local public safety worker who was dealing with a non-English speaking visitor could call the Language Line toll free number and receive the necessary assistance. The emergency worker had a laminated language card containing foreign phrases that the foreign visitor could use to indicate his language to the Atlanta worker. Once the language was identified the operator accessed an interpreter for the two parties (AT&T, 1996).

Language Line interpreters were trained to understand all the aspects of the language they interpreted, including slang and idioms. Their interpretation thus assured understanding of meaning not just word for word translation. This service could assist callers with a variety of situations, including medical emergencies. (AT&T, 1996). As has already been documented, communication was a critical element when treating a sick or injured person. The communication factor became especially difficult if a language barrier was involved. All of Garland's ambulances were outfitted with cell phones for talking to a hospital emergency room doctor to obtain advice and permission for treating such patients. It was but a small step to use the same cell phone to contact a Language Line operator to question a Spanish-speaking patient as to specific pains, symptoms, and complaints. In the case of unconscious or seriously injured patients, Language Line could be used to interpret for family members and neighbors. Language Line costs were a fixed monthly rate of $50 per month plus an additional user charge of 3 cents/minute (K, Pickard, personal communication, September 6, 2000).

A concept that promised both success and difficulty was the idea of extra pay for employees who were fluent in both English and Spanish. The rationale was a simple one. Financial incentives would encourage employees to learn Spanish. Peter Fritsch explored this issue and found it to be quite complex, with strong arguments both for and against the idea of extra pay. The issue had moved to the forefront due to business and social trends as companies sought to aggressively market the estimated 20 million U.S. residents for whom English was a second language. Accompanying the market shift Fritsch found, was a big change in the way foreign languages were perceived: as a ticket to some of the best jobs in America (1996). He found that Custom Agents who spoke

certain language could receive a premium of five percent of their base pay. MCI Communications paid a 10 percent bonus to workers who were required to use a foreign language more than half the time in their jobs. Bilingual firefighters in Houston, Texas received an extra $150 a month for their foreign language ability (Fritsch, 1996).

Yet Fritsch found strong arguments against such actions. Some felt extra pay violated Human Resources Rule Number One: pay the job, not the person. Make an exception for bilingual employees and there was the risk of problems ranging from poor morale to charges of discrimination. Moreover, Fritsch pointed out that paying premiums for language skills invited endless debate about which skills deserved more money (1996). Offering a language premium could also backfire financially. The city of Austin, Texas implemented a program of an extra $75 a month for bilingual police officers. When the city administered a language qualification test, more qualified for the premium than expected. Of the 140 officers who qualified for the extra pay, 60 were unable to collect the premium. This created conflict within the department over the shortcomings (Fritsch, 1996). The concept of extra pay for a special qualification was not alien to the Garland Fire Department. Firefighters who earned a paramedic certification garnered an extra $100 per month for that certification. In addition, they received shift differential pay of $20 for each shift they were assigned to an ambulance.

Regarding the field of fire prevention education in Garland, it had been relegated to a second tier as compared to firefighting and emergency medicine, at least in budgetary terms. It was ironic that this stepchild of the fire service was found to have the most Spanish-English resources in place. NFPA, for example, had recognized the growing Hispanic population. It developed a Spanish version of the popular “Learn not to Burn”

for children, calling it “Mis Primeros Pasos en Prevencia contra Incedios.”(2000). The USFA web site (http://www.usfa.fema.gov). Bilingual teachers were already in Garland schools due to the bilingual education law, so there were readily available translators for fire educators when they visited a Spanish- speaking class of children (“Education”, 1998). The existing situation in Garland was such that the capabilities for bilingual fire safety education were already in place. What was lacking was the same effort that the department dedicated to fire suppression and emergency medicine.

Literature Review Summary

The literature reviewed provided valuable insights into the issues of Spanish language fluency for the Garland Fire Department. These included the necessity of increasing Spanish fluency among firefighters or developing interpretation assistance for them, department areas of operation where fluency was most needed, and the type of language assistance or training best suited to meeting the demands of the situation.

Statistics provided quantifiable data that the Hispanic population in the U.S., Texas and the North Texas area had grown and would continue to grow. The degree of English proficiency among Hispanics was more difficult to discern. In 1990 the Census Bureau estimated that 48 percent of Hispanics in America spoke English less than “very well” (1996), while Fox felt the numbers were difficult to estimate. He also felt due to reasons of ethnic pride and the practicality of Spanish in the workplace, their numbers might grow and not dissolve into an American melting pot (1996). There were others who perceived the language gap. The Matamoros brothers started a research project due to such a perceived gap between Hispanic and the Worcester Fire Department (1977). In spite of the population data indicating a growing Hispanic population that might not

always be fluent in English, only 7 of 240 firefighters in Garland were fluent in Spanish (Captain Jeff Tokar, personal communication, August 15, 2000). Finally, Erichsen of About.Com commented on how developing fluency in another language gave that person valuable insight into the thoughts and cultural views represented by the foreign language. He felt it made for a better employee. Beyond the mere ability to communicate with the non-English speaker, the special insights obtained by learning a foreign language allowed for a better exchange between the worker and the Spanish speaker (2000).

Regarding areas of fire department responsibility where Spanish fluency might be most valuable, the research pinpointed fire suppression and emergency medicine. Lewis et al. (1978) promoted the concept of "confianza" between an emergency worker and a Spanish-speaking patient. Nasr et al. (1993) pointed out the potential for miscommunication of a patient's complaints and needs, which could also involve the "nodding syndrome." There was also justification based on the emergency incident statistics of the Garland Fire Department. Medical incidents average over 12,000 runs between 1997 to 1999. Regarding fire suppression, national statistics from the USFA documented that fire death rates were highest in the home, where a Spanish-speaking family might be by itself with no potential interpreter (USFA, 1999b). The importance of firefighters obtaining search information to find victims was also reviewed. Coleman stressed the importance of neighbor or family member being able to pinpoint the whereabouts of someone inside a burning house (1997). Regarding fire prevention education, the federal viewpoint strongly supported this concept as an equal partner to fire department responsibilities (USFA, 1999a). It was also evident from a review of Garland's fire budget that the same fervor was not there as with the federal agencies.

(Garland, Texas, 2000). National fire organizations such as IFSTA, NFPA, and the USFA demonstrated a commitment to fire education to Spanish-speakers as they provided numerous pamphlets and videos in Spanish that covered topics of fire safety. Fire education for Spanish-speaker had the additional advantage of bilingual education in the state of Texas ("Education", 1999). Because of this law, there was a ready made group of interpreters available at the Garland schools to translate for firefighters as they presented a fire safety class

Spanish language assistance and training generated the most research material of the three questions. Nasr et al. began the research in this area by pointing out the problems with using a family member or acquaintance as an interpreter. (1993). Truckee Fire Protection developed a very simple and yet effective solution to a Spanish fluency problem by printing Spanish instructions in the 911 section of the phone book (Majonovich, 1983). Most of the material in this section was generated by the strategy of using Spanish language class to train workers to speak Spanish. Such actions were undertaken Redwood City, California. ("Spanish Language Instruction", 1998). Reference was made to use of private companies such as Command Spanish. It was here that the term occupational Spanish was introduced. Command Spanish also developed a Spanish Power Card that would serve as inspiration for the Spanish flash cards of the Garland Fire Department. The research also studied an early effort by the Matamoros brothers at the Worcester Fire Department in 1977 to teach firefighters Spanish (1977). This approach used community volunteers, an idea also supported by Reed of the Coral Gables Fire Department (1998).

A technological concept that promised excitement was AT& T's Language Line. This development allows the use of telephone translation use in emergency work (AT&T, 1996). An interesting idea with more than a little controversy was the issue of extra pay for proficiency in a foreign language. Fritsch examined both sides of the pay issue, and cited both advantages and disadvantages (1996). An idea generated within the Garland Fire Department was the notion of Spanish flash cards. These flash cards contained the basic questioning in both Spanish and English to determine if somebody was inside a burning house, who it might be, and who they were.

Regarding the field of fire prevention education, the abundance of Spanish materials for fire safety education was cited as well as the readily available translators in the Garland school district. The research also mentioned that lesser priority that Garland paid to fire prevention education as opposed to fire suppression and emergency medicine.

PROCEDURES

Definition of Terms

Academic Spanish. Spanish associated with travelers, learning institutions ("Certification Seminars", 2000).

Hispanic. A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race (Census Bureau, 2000a).

International Fire Service Training Association. Nonprofit, educational association of firefighting personnel who are dedicated to upgrading freighting techniques and safety through training (IFSTA, 2000).

Less than Fairly Well. Census Bureau's subjective description of person's ability to speak English, based on that person's perception of his ability (Census Bureau, 2000b).

National Fire Protection Association. International, nonprofit member organization whose mission is to reduce the worldwide burden of fire by developing and advocating scientifically based codes and standards, research, trainee, and education (NFPA, 2000).

Occupational Spanish. Spanish related to the demand s of one's job ("Certification Seminars", 2000).

Primary Search. A thorough search in the first moments of a fire to insure that all savable victims have been removed from the affected structure (Coleman, 1997).

United States Fire Administration. (USFA) A federal agency whose focuses on fire safety and prevention. It supports the local efforts of communities to reduce fire and fire deaths by sponsoring ongoing programs of fire service rescue and management (USFA, 2000).

Research Methodology

Action research was used in this project to solve an existing problem in the Garland Fire Department. The department faced a communication barrier when dealing with Hispanics who spoke little or no English. This project applied information and statistics to accomplish several goals. Population statistics were examined to determine the scope of the language problem. Sources were analyzed to determine the necessity of increasing the number of firefighters who could speak and understand Spanish or creating alternative interpretation strategies. The areas where bilingual firefighters might be most beneficial was another research topic. Finally, the views and factual accounts of other researchers and departments were sought to evaluate the different methods to teach Spanish or to develop translation assistance for use at emergencies. One product of this

research was the creation of Spanish flash cards, which will reviewed in depth later in this project.

Research involved the review of literature at the Learning Resource Center of the National Fire Academy. Subsequent research was conducted in the public library system of Plano, Texas and the library of the Garland Fire Department. The literary sources were comprised of trade journals, fire magazines, and books by authors inside and outside of the fire service career field. The World Wide Web was accessed to obtain current population statistics from the Census Bureau, search for companies offering Spanish language instruction, and for articles that dealt with language training issues. Municipal and fire department statistics were evaluated for emergency incident data and budget figures.

These research sources provided the answers to the three research questions of the project. The research areas included determining the need to increase the number of Garland firefighters who could speak Spanish or to increase interpretation tools available to them. A second area concerned which particular areas of department responsibility merited an increased use of bilingual firefighters. The final research question was to identify the best methods to develop Spanish proficiency in the department or any language assistance that could be effectively utilized during an emergency incident. For each of the research questions the sources were analyzed for possible answers. Conflicting viewpoints were sought and considered whenever possible. This analysis provided the project's recommendations for dealing with the issues of a language barrier.

Assumptions and Limitations

It was assumed that all authors reviewed for this project performed objective and unbiased research in the preparation of their work. A second assumption concerned the end product of the research. It was assumed that there could be different solutions to the problem of a Spanish language barrier. In other words, there would not be a single, magic bullet to cure all problems.

A major assumption was an accurate enumeration of the Hispanic population in the U.S. by the Census Bureau. The Census Bureau derived national population estimates by using decennial census data as benchmarks data available on births and deaths, immigration, the armed forces, movement between the U.S. and Puerto Rico, and the number of federal employees abroad (U.S. Bureau of the Census, 1996). Population projections illustrated plausible courses of future population changes based on assumptions about future births, deaths, international migration, and domestic migration. Three series of projections based on alternative assumptions for future fertility, life expectancy, and net and international immigration were developed. The series using the middle assumptions was the most commonly used by the Census Bureau. Additionally, the Census Bureau's evaluation of the 1990 census indicated an estimated undercount of five percent of the Hispanic population based on a post enumeration survey of the population (U.S.Bureau of the Census, 1996).

A limitation was the Gordian Knot of determining the degree of English fluency among the Hispanic population. As already cited, the Census Bureau's count in this area relied heavily on self-perception which means the responses were filtered by personal opinion. (U.S.Bureau of the Census, 2000b). Another limitation was the age of some of

the research material. For example, the Worcester study was over 20 years old. However, it can be argued that despite the age of the project it established the precedent of a fire department seeking to respond to a changing environment. The viewpoints offered by the older sources, while somewhat dated, offered useful data that was still valid for answering the research questions.

RESULTS

A copy of the Spanish flash cards developed by the Garland Fire Department is Appendices A, B, and C.

Research Question 1

Is there a need to increase the number of Garland firefighters who can speak Spanish or to develop interpretation assistance for these firefighters?

This is answer is heavily influenced by the statistics of the Census Bureau. The Hispanic population in Texas and Garland's North Texas area had increased. The number of Hispanics in North Texas had more than doubled to 920,000 by 1999. It was projected that Hispanics would outnumber whites in Texas by 2025(Corchado and Trejo, 2000). Garland's 1990 population was 12 percent Hispanic, and in view of all of the other census data offered about the North Texas area, it was undoubtedly higher at the end the decade. The 1990 census estimated that almost 50 percent of the Hispanic population spoke English"less than very well" (U.S.Bureau of the Census, 1996). Reality was that the Garland Fire Department served a population that was changing in its racial composition. There were more Hispanics, many of whom did not speak English very well. The numbers indicated that the contacts between these two groups would continue to grow. Yet only 7of 240 firefighters of the department spoke Spanish. Yes, the number

of firefighters in Garland who could speak and understand Spanish needed to increase in the face of a language vacuum. The department also needed to develop some type of formalized interpretation assistance as well.

Research Question 2

In which areas of fire department responsibilities should Spanish language training or assistance be developed?

The ability to speak Spanish could be of value in any of the departments' area of operations. Of particular importance was emergency medicine. As documented, when treating a patient, exact communication was a critical factor in determining a patient's complaint and needs. Spanish fluency could create the "confianza" that might create a viable paramedic-patient relationship (Lewis et al., 1978). Firefighting itself would benefit with more firefighters speaking Spanish. A particular area where Spanish fluency would be valuable would be search and rescue inside a building on fire. Rescuers, as pointed out by Coleman, could obtain valuable clues as to the whereabouts of any potential victims inside the structure (1997). Such clues would be lost in the face of a communication barrier. Although fire safety was very important, many bilingual tools already existed for Garland's firefighters. There were numerous fire safety materials available from national fire organizations. Additionally, there were bilingual teachers at every Garland school that could serve as translators when firefighters visited a class. It was not that fire safety was unworthy of developing Spanish-speaking firefighters to present the lesson plan. Rather, the greater need was to develop Spanish fluency or interpretation in emergency medicine and fire suppression where there was little or no such capability.

Research Question 3

What types of Spanish language training or interpretation assistance should the Garland Fire Department adopt?

A simple answer was to provide language instruction classes for firefighters. There were numerous private companies offering Spanish language instruction, one of which was Command Spanish. The Spanish to be taught should be of the type best described as occupational Spanish ("Certification Seminars", 2000). After an initial period of class instruction, it is recommended that community volunteers be recruited to offer occasional refresher training to firefighters to help maintain their language ability. An additional recommendation this area is to offer extra pay of $100 dollar per month to those firefighters who develop and maintain a proficiency in the Spanish language.

There were less comprehensive measures available if factors of ease and economy were considered. AT&T Language Line is recommended for use with the paramedics. Garland ambulances are outfitted with cellular phones and the success of such a measure was documented at the 1996 Summer Olympics in Atlanta. (AT&T, 1996). While paramedics were often faced with intense medical crises, there was often the window of a few minutes to make a phone call while simultaneously treating someone with a serious medical condition. Language Line is not recommended for search and rescue teams because their window of opportunity was often in seconds, not minutes. One local solution that is proposed is the use of Spanish flash cards. This is a series of three cards which detail, through pictures and words, the three questions a fire officer would ask of a family member or passer-by (a) Is there anyone in the house? (b) Who is in the house? and (c) What part of the house are they in? Regarding the area of fire safety education, it

is recommended that the present system be maintained where bilingual teachers act as interpreters for firefighters when they visit a school to teach fire safety. A good lesson plan to maintain is “Mis Primeros Pasos” for elementary age children (NFPA, 2000).

DISCUSSION

Statistics constituted the main argument for establishing a need to increase the level of Spanish fluency among Garland firefighters. In reviewing statistic after statistic, one was reminded of Disraeli’s view of statistics: “There are three kinds of lies: lies, damned lies, and statistics (“Quotes and insults”, 2000). However, statistics can paint an accurate picture if they are used in the context for which they were first gathered. The statistical picture if the Hispanic population growth in the U.S., Texas, and the Garland’s North Texas area created such a canvas. The Hispanic population in the U.S. had increased to 31 million by 1999, which was 12 percent of the population. It was projected to reach 25 percent in the year 2050 (U.S. Bureau of the Census, 1996). In Garland’s North Texas area, in the period of 1990 to 1999, the total number of Hispanics had more that doubled. It was projected that by 2025 that Hispanics in Texas would outnumber whites (Corchado and Trejo, 2000). Garland’s figures were less compelling, with only 12 percent of the city population being of Hispanic origin. But Garland’s figures were 10 years old (U.S. Bureau of the Census, 1996).

These population statistics established a cultural implication for the U.S., Texas, and Garland. The Hispanic population was growing. However, population growth was not the only factor to consider as the researcher pondered answers to the first research question. To completely answer the first question it became necessary to determine how well the Hispanic population spoke English. The best evidence came from the Census

Bureau from its studies of the American population. It estimated in 1990 that almost 50 percent of the Hispanic population spoke English “less than very well (U.S.Bureau of the Census, 1996). This project has already acknowledged the potential flaw of having a person evaluate himself on how well he spoke a foreign language. Individual perceptions can occur, but even if the Census Bureau were off by half, it would still mean that there existed a significant portion of the Hispanic community that did not speak English very well. Fox may not have completely agreed with the finding of the Census Bureau, but his views seem to endorse the idea that a significant part of the Hispanic population has problems speaking Spanish. Other authors also expressed concern about language barriers in the delivery of emergency services. Lewis et al. was concerned about the ability of Hispanic patients who a poor command of the English language to communicate in English (1978). Perception of a language barrier was the inspiration for the early research of the Matamoros brothers in Worcester. (1977). A final telling statistic that gave a definitive yes to the first research question was a simple statistic about the Garland Fire Department. Only 7 of 240 firefighters were fluent in Spanish. This single fact carried a major implication for the department. It was serving a population whose demographic face was changing, and if the department refused to face up to the realities of the new American society as exemplified in Garland, it could be severely hampered in carrying out its responsibilities.

As to the areas where Spanish language training or some type of language assistance was most needed, emergency medicine and fire suppression stood out. The nature of the two types of emergencies perhaps led in different directions when considering the best solutions to a language barrier. A paramedic, while in a hurry, must also take the time to

try to establish a bond with his patient. This is the “confianza” Lewis et. al referred to in their work.(1978). A paramedic’s knowledge of Spanish will also prevent the appearance of the”nodding syndrome” described by Nasr et al. (1993). Nasr et al. provided several practical reasons for the need to communicate effectively with Spanish-speaking patients. His concerns centered on the problems due to an ad hoc translator’s lacking medical knowledge, paraphrasing which could omit important data, loss of verbal and non-verbal clues, and embarrassment on the part of either the patient or the translator (1993). A paramedic who can speak Spanish goes directly to the nature of diagnosis and treatment because he can use the crucial medium of conversation. A bond is established between patient and health care worker, and every detail of a medical problem can be accurately recorded and analyzed.

Statistics also carried some weight in the consideration of answering the second research question. For the period of 1997 to 1999, 73 percent of Garland’s emergency incidents concerned emergency medicine (Stewart Smith, personal communication, August 25, 2000). This statistic established Garland’s Emergency Medical Services Division as a top candidate for Spanish language training or assistance. If some type of Spanish language assistance was brought to Garland paramedics, the odds were overwhelming that it would be used. Spanish could be a valuable tool for search and rescue at structure fires. USFA data established that the American fire problem was greater than that of other industrialized nations. The data also established that 80 percent of fire deaths in America occurred in the home (USFA, 1999b). At home, where a Hispanic family faced the greatest danger, there would not be an English-speaking supervisor or co-worker who could assist searching firefighters. Coleman had repeatedly

stressed the value of firefighters being able to question family members or neighbors for clues to the whereabouts of any potential victims. Time worked against an unconscious victim in a smoke-filled environment as the brain's capacity to exist without oxygen lasts only two to six minutes (Coleman, 1997). A language barrier would be the final nail in the coffin as the fire can start long before the firefighters arrive on scene.

As to the necessity of Spanish fluency in the delivery of fire safety education, there seemed to be natural inclination in Garland to continue the status quo that the department had fallen into. The bilingual education law had give the departments access to translators in the school system 1973 ("Education", 1999). There was no lack of fire safety material printed in Spanish from national organizations such as the NFPA or the USFA. The federal reports on the subject stressed treating education as an equal partner since ignorance and lack of concern were prime factors in America's high fire rates as compared to the rest of the industrialized world (USFA, 1999a). Yet, as demonstrated by the Garland's budget of fiscal year 1999-2000, there did not seem to be equal emphasis on prevention as with emergency medicine and fire suppression. A possible answer here is that fire department tradition is the big red fire engine racing down the street. A firefighter talking to a class of children about fire safety is just as important, but nowhere near as exciting to observe. A firefighter using Spanish when teaching children could carry a powerful message to those kids about the importance of fire safety in their new country. Fire safety was not ignored, but was definitely on a second tier in the Garland Fire Department, at least in terms of budgetary commitment.

Concerning types of Spanish language instruction or assistance, there were many different options the fire department could pursue. The most direct approach was to send firefighters to language classes. It was a path chosen by Redwood City, California ("Spanish Language Instruction", 1998), and advocated by Walter Reed of the Coral Gables Fire Department (1998). Even this option had several different approaches. Redwood City used regular academic instructors ("Spanish Language Instruction", 1998). Command Spanish advocated paid instructors. ("About Command Spanish", 2000). Reed of Coral Gables (1998) advocated the possibility of using community volunteers, an approach that had been early adopted by the Matamoros brothers in their research project (1977). A common theme emerged from all of these views, although it was Command Spanish that actually gave it the name that it has been used in this project. It's the concept of occupational Spanish. This is not the academic Spanish of high school, college, or even Berlitz. It is a Spanish adapted to the job needs of different career fields ("Certification Seminars", 2000). A possible deciding factor between the use of volunteers or paid instruction was of course budget considerations. Command Spanish quoted a price of $295 per firefighter (2000), which would come out to almost 70,000 dollars to train all of the firefighters in the department. It would not be sufficient to simply conduct the initial training. Refresher classes would have to be given to maintain comprehension. This is perhaps where community volunteers could prove useful. The enthusiasm that the volunteers would bring to the project would be valuable. There would be the problem of avoiding time conflicts in firefighter schedules. They were already subject to many training demands levied by the state as well as the numerous responsibilities of emergency incidents, fire inspection duties, and fire safety events. In

the Worcester study, only one group of firefighters kept to regular attendance at the language classes. The two other groups involved in the study soon lost interest (G. Matamoros and R. Matamoros, 1977).

A concept developed by the Garland Fire Department was the idea of Spanish flash cards. The original inspiration for these came from the Spanish power card offered by Command Spanish which contained dozens of English-phrases ("Instructional Materials", 2000). Garland's idea was limited to just three phrases, one per card as already cited. What was also different was the addition of pictures detailing the situation that the questions and answers referred to and described. The advantage of these cards was that they required minimal comprehension of the Spanish language. Firefighters only needed to be able to speak a few words of Spanish. They could also point to the pictures to make a point if they encountered a Spanish-speaker who was also illiterate. The costs were negligible as the department used software and material it already possessed. It offered the additional advantage of meeting the crucial speed factor for search and rescue that Coleman repeatedly emphasized (1997).

The same concept of flash cards was never considered for emergency medical incidents, mainly because of the myriad of medical situations that a paramedic could encounter. He also usually had a few more minutes to handle his emergency than a searching firefighter. Due to this slight time advantage, the decision to use AT&T's Language Line was advocated. All of Garland's ambulances were equipped with cellular phones. The interpreters offered by Language Line were well versed in the slang terms and other nuances of Spanish (AT&T, 1996). There was ease of operation, speed was not sacrificed, and the basic monthly charge was only 50 dollars per month (K. Pickard,

personal communication, September 6, 2000). There was one important issue that would have to be decided by the Chief of the Department. Should Language Line be a permanent option for paramedics or a temporary strategy while they went to Spanish classes? As already mentioned, a bond could be developed between paramedic and patient if a paramedic could converse with him in his native tongue. Such bonding might be lost if the paramedic instead depended on a stranger on the other end of the phone line. But then Language Line was a cheaper alternative than Spanish instruction that is if such instruction was paid for. Ultimately, this is a decision that carries deep budgetary and social implications for the department. This project stands by the earlier answers of both language classes and Language Line. The classes might be a one-time expenditure if volunteers are used for refresher training. And Language Line can be used to translate languages other than Spanish that might be encountered in Garland. Additionally, the cost is rather inexpensive, roughly $50 per month (K. Pickard, personal communication, September 6, 2000). Language Line was not considered for fire situations. A rescuer simply did not have the time to call someone up to interpret for a bystander at a fire. His decision window was in seconds, and that did not allow of the luxury of phone calls to an interpretation service.

Another thorny political issue was the concept of extra pay for maintaining a fluency in the Spanish language. Fritsch touched on both sides of the issue. Extra pay seemed justified for someone who used Spanish regularly in their work and when the language ability improved the quality of service. Yet, one cannot deny that there would be resentment among those not receiving the premium pay (Fritsch, 1996). There is some precedent in the Garland Fire Department. As mentioned before, firefighters who become

paramedics receive extra pay for obtaining that paramedic certification. Since there was this precedent, there might not be the resentment that might arise in other organizations where no such precedent existed. Garland was not alone in this area. The Houston Fire Department gives its bilingual firefighters an extra $150 per month. MCI Corporation and the U.S. Customs Department also offer pay premiums for bilingual employees (Fritsch, 1996). There is an implication for the fire department budget. An extra $100 per month for approximately 200 firefighters adds up over the years. Austin faced a budget crunch and a resulting dip in morale in its police department when it could not come up with enough money to pay all the officer that qualified for the bilingual pay (Fritsch, 1996). The Chief will need to convince the city council of the importance of a Spanish language program and the corresponding issue of paying for it.

Regarding bilingual fire safety education, the status quo was preferable for the present time. Granted a Spanish-speaking firefighter teaching Hispanic children would carry a powerful message regarding the importance of fire safety. However, there are other tools that could be used effectively, at least in the short run. As already reviewed in the research, Texas has had bilingual education in it schools since 1973 (“Education”, 1999). At every Garland school district campus there are several bilingual teachers able to serve as translators for firefighters. Regarding fire safety material, the national fire organizations cited in this research produce and offer dozens of bilingual materials. The capability to carry the message of fire safety education to Hispanic children was there, who hopefully would take the message back to the adults at home. It is not that bilingual fire educators would be useless, rather the greater need was to develop Spanish fluency and assistance in the fire department areas of emergency medicine and fire suppression

where there was precious little Spanish comprehension. Budget might also be a consideration, as it could prove expensive to organize language classes. The implication for the department, facing a time factor and allotting financial resources, was that it was better at the present time to continue the current practice of using Garland schoolteachers as interpreters when firefighters taught safety classes at the schools.

The overall implication of improving Spanish comprehension in the department is to face the prospect of creating and managing a strategic change. Spanish language instruction would be new, it has no precedent in the department. Traditionalists in the fire service might not be supportive of the change. It could bring instructors in contact with firefighters, both of whom come from different cultures and exemplify different cultural mores. When one remembers that three classes of Worcester firefighters stopped attending the Spanish language classes, one must consider the possibility that those firefighters may have been making personal political statements. The potential for cultural clashes exists. Thereby the Chief needs to support the program with total commitment. Any perceived lessening of his support would sound a death knell for the program. Perhaps the best strategy for the Chief would be to have the firefighters review some of the data of this project. If the firefighters can see how the population composition of the North Texas area is changing, then perhaps the why for the program becomes much clearer. Another appeal would be to the professionalism of the firefighters. A professional is proactive. He seeks the solutions to the problems arriving in the not too distant future. He acknowledges the diversity that is now American culture, and seeks to find the ways to better meet the service demands the new American mosaic makes upon emergency services.

RECOMMENDATIONS

Based on this research, the following recommendations are made:

1. Establish a program of language instruction to teach Garland firefighters Spanish. Instruction will utilize the occupational Spanish referred to in this project. A private corporation that specializes in this kind of language instruction should manage the project. Command Spanish offers a two-day seminar at a rate of $295 per person. Personal contact between emergency worker and a citizen in need brings an added quality of human concern at an emergency. A bilingual firefighter can establish that contact with a Spanish-speaking resident.

2. Recruit community volunteers assist in language refresher training. The volunteers can come from all walks of life, but particularly be recruited from the Hispanic community. This accomplishes two goals. First, it maintains firefighter command of the Spanish language. Second, it creates contact between two disparate groups. As one talks to the other, hopefully, personal communication and mutual respect will grow.

3. The department must authorize extra pay for those firefighters who develop proficiency in the Spanish language. The precedent for this step has already been established with the extra pay for firefighters who become paramedics. Financial incentives have their place in the America. If you subsidize something, you tend to get more of it. Hopefully, the same holds true for language instruction and proficiency.

4. The department must develop a short series of three so-called Spanish flash cards for use by search teams at structure fires. The cards, which are listed in Appendix A, list three simple questions (a) Is there anyone inside the house? (b) Who is inside the house? , and (c) What part of the house are they in? The cards contain both English and Spanish

translations of these phrases and are accompanied by pictures representing these questions. The pictures are a solution to illiteracy problems in the communication process.

5. The department must contract with AT&T's Language Line for use by paramedics on emergency medical incidents. The cost is a monthly fee of $50 with an additional rate of about 3 cents a minute during actual use. This is a valuable reserve in the event a bilingual paramedic is not present or a paramedic whose Spanish is less than satisfactory. The Chief may also decide that budgetary concerns prevent all firefighters from going to a Spanish class

6. Areas for additional research concern the extent of language training among firefighters. How many of the department's firefighters should undergo the training? Should it be only paramedics? Should it include fire officers? The financial implications of the language training cannot be ignored, especially if the department opts to pay extra money for language proficiency. There is the problem of conflicting schedules, as firefighters' schedules are already full of other training classes, inspection duties, school visits, and emergency responses. It might be wiser to limit the group required to attend language instruction classes in order to limit this conflict. Yet another area for study is the growth of other foreign languages besides Spanish. The other languages might require a response similar to the issue of the Spanish language barrier.

For other departments seeking to research a perceived language barrier in the delivery of their services, they must first know their community. More specifically, they need to make a study of the present and future demographic trends of their community. The American culture is taking on many new faces and a department needs to know which

new faces are showing up in their service area. Once they know which changes are occurring in their city or town, they can research the best steps to meet the new challenges. Hopefully, while they were finding out about the new realities of the community, they will also discover some of the resources to meet the new demands. It will be important to get community activists from the minority groups to which the department is trying to find better ways to serve. In this project it was suggested they assist in language refresher training. They can be valuable source of information on how to best serve their cultural group. Reality will rear its head in the form of a budget. Whatever is developed, the money must be there to support it, so the cost of different measures must always be kept in mind. The department must also be cognizant of where most of its time is being spent in emergencies. Where the department spends the most time is a good starting place to develop a bilingual proficiency or cultural awareness.

American society is changing. America is no longer the melting pot, it has become a mosaic (Naylor, 1997). Along with these cultural changes has come a new host of problems emergency responders have to deal with when responding to an emergency. It will call for new skills as critical as laddering a building or driving a fire engine. A modern department facing the new millennium will not ignore these changes, but rather embrace them, and seek to develop strategies to meet the new realities. Fire is not a peculiar problem to any one cultural or linguistic population, but it is a threat to each individual (Majonovich, 1983). A fire department, aware of the new American diversity and of its service commitments to serve that new diversity, will be ready to meet that threat.

REFERENCES

About Command Spanish. (2000). Petal, MS: Command Spanish Incorporated. Retrieved June 6, 2000 from the World Wide Web: http://www.commandspanish.com/aboutes.html

American Telephone and Telegraph. (1996, May 28). *AT&T Language Line Services helps break communication barrier at 1996 Olympic Games* [News Release]. Atlanta, GA: Author. Retrieved May 30, 2000 from the World Wide Web: http://www.att.com/press/0596/960528.cha.html

Armas, G. (1999, August). Minority growth booming. *The Dallas Morning News,* 1-3. Retrieved August 30, 2000 from the World Wide Web: http://www.dallasnews.com/national/159127_census_30nat.A.html

Certification Seminars. (2000). Petal, MS: Command Spanish Incorporated. Retrieved June 6, 2000 from the World Wide Web: http://www.commandspanish.com/certsem.html

. Coleman, J. (1997). *Incident management for the street-smart fire officer*. Saddlebrook, NJ: PennWell Publishing.

Corchado, A., & Solis, D. (1999, September). A force of change. *The Dallas Morning News,* 1-9. Retrieved August 30, 2000 from the World Wide Web: http://www.dallasnews.com/specials/reshaping/0919texmex1main.htm

Corchado, A., & Trejo, F., (1999, September 20). Urban renewal. *The Dallas Morning News,* 1-8. Retrieved August 30, 2000 from the World Wide Web: http://www.dallasnews.com/specials/reshaping/0920mexday2dallas.htm

Education. (1999) The handbook of Texas online. Accessed September 9, 2000 from the World Wide Web: http://www.tsha.utexas.edu/handbook/online/article/print/EE/khel.html

Erichsen, G., (2000). *Spanish language*. Retrieved June 4, 2000 from the World Wide Web:

http://spanish.about.com/hjomework/spanish/library/beginning/bl-beg-intro-why.htm

Fox, G., (1996). Hispanic nation. Secaucus, NJ: Birch Lane Press.

Fritsch, P., (1996, January 13). Bilingual employees, increasingly in demand, want to talk money. *New York Times*. Retrieved May 30,2000 from the World Wide Web:

http://www.newstimes.com/archive96/nov1396/bzg.htm

Garland, Texas. (1999). *1999-2000 Operating Budget.* Garland, Texas: author

Instructional materials. (2000). Petal, MS: Command Spanish Incorporated. Retrieved June 6, 2000 from the World Wide Web:

http://www.commandspanish.com/mat_ems.html

International Fire Service Training Association. (2000). Fire Prevention Catalogue, 9. Retrieved August 7, 2000 from the World Wide Web:

http://www.ifsta.org/catalog/prevention.html

Lewis, G., Lefler, C., Hidalgo, J., & Kastelic, F. (1978). The communication gap. *Emergency* 10 (1), 34-35.

Matamoros, G., & Matamoros, R. (1977). *Teaching Spanish at the Worcester Fire Department* (Call No. 10250). Worcester, MA: Worcester Polytechnic Institute, Undergraduate Project Report.

Mexico. (1999). *Encyclopedia Britannica.* Chicago. Retrieved August 21, 2000 from the World Wide Web: http://www.britannica.com/bco…/article/printable/0/0,5722,115530,00.ht

Mijanovich, P. (1983). Bilingual fire safety information flow. *Western Fire Journal*, 35 (4), 42-43.

Nasr, I., Cordero, M., Houmes, B., Fagan, J., Rydman, R., & Green, C. (1993). Use of a bilingual medical history questionnaire in the emergency department. *Annals of Emergency Medicine*, 22 (5), 74-78.

National Fire Protection Association. (2000). *Learn not to burn*. Retrieved August 7, 2000 from the World Wide Web: http://www.nfpa.org/newhttp/htdocs/Education/Professional_Education/Learn_Not_to_BurnR/Spanish-language_Prspanish-language_progra

Naylor, L. (Ed). 1997. *Cultural diversity in the United States*. Westport, CT: Bergin & Garvey.

North American Free Trade Agreement. (1999). *Encyclopedia Britannica*. Chicago. Retrieved August 21, 2000 from the World Wide Web: http://www.britannica.com/bcom/article/printable/0/0,5722,2260,00ht

Office of the Governor of Texas. (2000). *Mexico*. Austin, TX: Retrieved August 21, 2000 from the World Wide Web: http://www.governor.state.tx.us/Texas/history_Mexico.html

Plunkett, W.R. (1998). *Supervision: diversity and teams in the workplace*. Upper Saddle River, NJ: Prentice Hall.

Quotes and insulting quotations from Benjamin Disraeli. (2000). Insult.net.Retrieved August 24, 2000 from the World Wide Web: http://www.insults.net/html/political/benjamindisraeli.html

Reed, W. (1998). *Methods for increasing bilingual communication in the Coral Gables Fire-Rescue Department* (Call No 28888). Emmitsburg, MD: National Fire Academy, Executive Fire Officer Program, Applied Research Project.

Rio Grande. (1999, February 15). The handbook of Texas online. Retrieved July 12, 2000 from the World Wide Web: http://www.tsha.utexas.edu/handbook/online/article/view/RR/rnr5.html

Schiller, D. (1999, August 12). War of words over Spanish rule. *San Antonio Express-News*, 1-3. Retrieved June 5, 2000 from the World Wide Web: http://www.americanpatrol.com/CULTUREWAR/TEXAS/Txelcenizospanishbp990812.html

Spanish language instruction. (1998, Fall). *Ideas in action,* 4, CCR15.

U.S. Bureau of the Census. (1996). *Statistical abstract of the United States: 1996.* (116th edition). Washington DC: U.S. Government Printing Office

U.S. Bureau of the Census. (2000a, June 28). *Resident population estimates of the United States by sex, race, and Hispanic origin: April 1, 1990 to July 1, 1999.* Washington DC: author. Retrieved July 6, 2000 from the World Wide Web: http://www.census.gov/population/estimates/nation/intfile3-1.txt

U.S. Bureau of the Census. (2000b, August 4). *Language spoken at home and ability to speak English*. Washington DC: author. Retrieved August 18, 2000 from the World Wide Web: http://www.census.gov/CMS/www/html/meth_doc/datadef/language.html

U.S. Fire Administration. (1998, October 21). *Blue ribbon panel list of recommendations*. Washington DC: Author. Retrieved August 7, 2000 from the World Wide Web: http://www.usfa.fema.gov/about/press/brp/usfartpt3.htm

U.S. Fire Administration. (1999a, August 16). *Legislative history of the federal fire programs*. Washington DC: Author. Retrieved August 7, 2000 from the World Wide Web: http://www.usfa.fema.gov/about/history.htm

U.S. Fire Administration. (1999b, November 15). *The national fire problem.* Washington DC: Author. Retrieved June 20, 2000 from the World Wide Web: http://166.112.200.143/nfdc/national.htm

U.S. Fire Administration. (1999c, November 15). *The overall fire picture*. Washington DC: Author. Retrieved June 20, 2000 from the World Wide Web: http://166.112.200.143/nfdc/overall.htm

U.S. Fire Administration. (2000, April 5). *Reducing the fire problem: the United States Fire Administration challenge.* Washington DC: Author. Retrieved September 8 from the World Wide Web: http://www.usfa.fema.gov/about

Wilkerson W., & Archer, W.R. (Eds.). (1997). *Texas vital statistics 1997*. Austin, TX: Texas Department of Health.

APPENDIX A

SPANISH FLASH CARD 1

TODOS AFUERA DE LA CASA?

IS EVERYONE OUT OF THE HOUSE?

APPENDIX B
SPANISH FLASH CARD 2

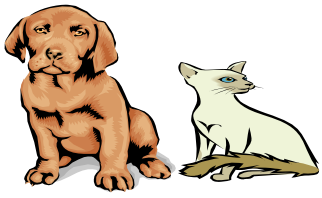
QUIEN ESTA ADENTRO?

HOMBRE (MAN)

MUJER (WOMAN)

VIEJO/VIEJA? (ELDERLY)

NINO/NINA (CHILD)



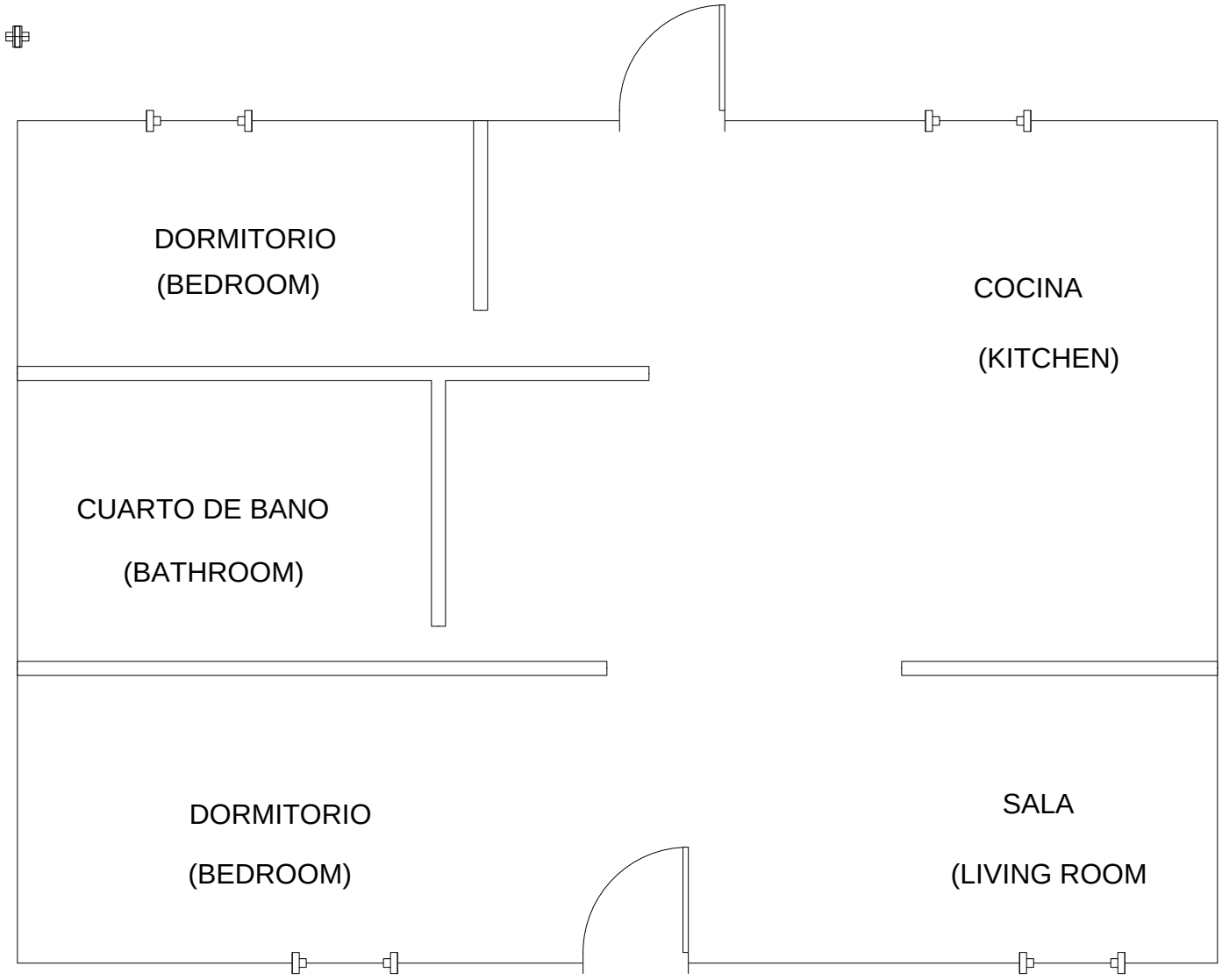
ANIMALES? (PETS)

WHO IS INSIDE?

APPENDIX C
SPANISH FLASH CARD 3

REAR

POSTERIOR



FRONT

FRENTE

POR AQUAL CUARTO ESTA LA PERSONA QUE
ESTA ADENTRO ?

(IN WHICH ROOM IS THE PERSON THAT IS INSIDE ?)